

Cancer of the Thyroid Gland

Its Occurrence Among Residents of San Francisco and Alameda Counties

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IN A PREVIOUS STUDY on the occurrence of cancer of the thyroid gland in the United States,² it was concluded that there are regional variations in the incidence of this neoplasm. The greater incidence of the disease in women than in men was most pronounced among those living in the West. The present report deals with the occurrence of cancer of the thyroid in individual metropolitan areas that participated in the survey of morbidity from cancer in the United States which was conducted by the National Cancer Institute in 1947-1948. The survey was conducted in areas selected so that the proportionate distribution of their population among the three regions—North, South and West—was the same as that of all cities of 100,000 or more population. The surveyed population amounted to 14.6 million, of whom 12.5 million were white. This communication presents in detail the data for San Francisco and Alameda counties, and for comparison, the incidence rates for other cities.

METHOD

The survey method was designed to obtain information on all or nearly all patients with cancer treated in hospitals, in clinics and in physicians' offices during a 12-month period ending in 1947 or 1948. Senior medical students were employed for abstracting hospital and clinical records. A questionnaire was mailed to every physician in the area, and personal visits were made to physicians not responding. In addition, as a partial check on the completeness of reporting, the records of local vital statistics offices were searched for information concerning deaths from cancer. It is believed that this method yielded information on practically every case of diagnosed cancer. This communication concerns the thyroid cancers diagnosed in the white resident population.

HISTOLOGIC CONFIRMATION OF CANCER

The desirability of obtaining a microscopic diag-

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• The incidence of cancer of the thyroid gland in men was about the same in Alameda and San Francisco counties as in the country at large, but the greater incidence of the disease in women than in men was more pronounced in Alameda and San Francisco counties than elsewhere in the nation.

nosis* in each reported instance of cancer is beyond question. However, cases diagnosed solely on clinical grounds cannot be disregarded lest too much attention be given to the epidemiology of tissue blocks rather than to the occurrence of cancer cases. Reasonable credence can therefore be lent to trends established on the basis of analysis of all the reported neoplasms, especially if they parallel the findings of a study limited to the histologically confirmed ones.

In this material, four out of five cases of thyroid cancer were histologically "confirmed." Table 1 summarizes for each city and each sex the number of cases reported, the number for which a histologic diagnosis was available, and the age-adjusted rates based on these two sets of data. Table 2, although based on exceedingly small numbers, is nevertheless presented because of its potential usefulness in comparing eventual results of analogous investigations.

RESULTS

Table 1 shows that there is little, if any, significant variation in the incidence rates for thyroid cancer reported among the male residents of these metropolitan areas. However, because of the generally low incidence of this kind of cancer in males, one year's experience is insufficient to demonstrate beyond reasonable doubt that there is no regional variations among men. All that can be said is that these data provide no evidence suggesting greater incidence in men of one geographic region than in those of another. On the other hand, the number of cases recorded among females in that one year period is large enough to provide for more reliable conclusions. It can be seen that the incidence varied considerably in the 11 areas surveyed—from a low

*A "validated" microscopic diagnosis would be still more useful, since the histologic criteria for "papillary adenocarcinoma" of the thyroid gland are not precise.—Editor.

TABLE 1.—Number of Newly Reported Cases of Cancer of the Thyroid and Incidence Rates per 100,000 White Population of Eleven Selected Areas of the United States, 1947-1948

	Males				Females			
	All Cases		Microscopically Confirmed		All Cases		Microscopically Confirmed	
	Number of Cases	Age-adjusted Incidence Rate*	Number of Cases	Age-adjusted Incidence Rate*	Number of Cases	Age-adjusted Incidence Rate*	Number of Cases	Age-adjusted Incidence Rate*
San Francisco	6	1.6	3	0.8	28	7.2	24	6.3
Alameda	6	1.9	6	1.9	27	7.8	24	6.7
Denver	3	1.3	2	0.9	9	3.4	6	2.3
Chicago	17	0.8	12	0.6	43	2.0	32	1.5
Detroit	14	1.2	11	1.0	25	2.7	20	2.1
Pittsburgh	9	1.3	6	0.9	22	3.0	18	2.5
Philadelphia	18	2.0	15	1.7	52	5.3	43	4.4
Atlanta	1	0.5	1	0.5	6	2.1	6	2.1
New Orleans.....	0	—	0	—	7	3.2	2	0.9
Dallas	0	—	0	—	6	2.6	6	2.6
Birmingham	0	—	0	—	7	4.2	6	3.6

* Adjusted to the 1950 United States population.

of 2 cases per 100,000 population in Chicago to 7.8 per 100,000 in Alameda County. It is further noted that while the agreement is not exact, there is also a general correlation between all cases recorded and those which were histologically confirmed. Among the surveyed cities, the highest rates were recorded in Alameda and San Francisco counties, and the next highest rate—5.3 in Philadelphia—was significantly lower than either.

It could be argued that there is more "thyroid consciousness" in an area where a keen interest in this gland has for a long time been stimulated by the fact that a number of nationally prominent investigators work there. However, the occurrence of thyroid cancer among the male residents of San Francisco and Alameda is not out of line with that in the rest of the surveyed areas—and it seems unlikely that the physicians in the area would have their increased awareness limited to one sex.

It would be interesting and informative to see whether additional studies based on all cases of thyroid cancer recorded in these communities, for a longer period, confirmed the points derived from this study of a single year's experience.* With regard to San Francisco, Alexander¹ found that an annual average of 26 histologically confirmed cancers of the thyroid had been newly diagnosed during the four-year period 1950-1953.* This accords with

*The reliability of the histopathological diagnoses of "papillary carcinoma" in both series of cases might be tested by submitting random samples of the slides to a committee of pathologists expert in this difficult field.—Editor.

TABLE 2.—Number of Newly Reported Cases of Thyroid Cancer, White Population of San Francisco and Alameda Counties, 1947

	San Francisco		Alameda	
	Males	Females	Males	Females
All ages	6	28	6	27
0 to 14.....	0	1	0	0
15 to 24.....	1	1	2	2
25 to 34.....	0	6	1	4
35 to 44.....	0	12*	1	7
45 to 56.....	0	4	1	1*
55 to 64.....	2*	0	0	1
65 to 74.....	1	3†	1	5*
75 and over	1*	1*	0	1
Unknown	1*	0	0	6*

*Includes one case not microscopically confirmed.

†Includes two cases not microscopically confirmed.

the 27 histologically confirmed cases of thyroid cancer recorded in San Francisco for both sexes during the 12 months of the 1947 survey. However, an exact comparison between Alexander's data and the data here supplied cannot be made, since Alexander did not provide the necessary details regarding the age and sex of patients.

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REFERENCES

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